What is claimed is:

Claims:

1. An electrically-operated dispenser for dispensing a viscous liquid, comprising:

a module body having a liquid outlet;

an armature disposed in said module body and movable between an opened position allowing liquid flow from said liquid outlet and a closed position preventing liquid flow from said liquid outlet;

an electromagnetic coil including a plurality of windings; and

a generally U-shaped pole disposed in said module body, said pole having a first arm and a second arm extending with a generally parallel and spaced-apart relationship toward said armature, said plurality of windings being wrapped about said first arm and said second arm, and said plurality of windings of said electromagnetic coil being selectively energized for generating an electromagnetic field capable of moving said armature relative to said pole between said opened and closed positions.

2. The electrically-operated dispenser of claim 1 further comprising:

a return spring biasing said armature axially away from said pole.

3. The electrically-operated dispenser of claim 2 wherein said first arm and said second arm define a cavity, said return spring being located in said cavity.

4. The electrically-operated dispenser of claim 1 wherein said plurality of windings are divided into a first set of windings wrapped about said first arm and a second set of windings wrapped about said second arm.

5. The electrically-operated dispenser of claim 4 wherein said first set of windings and said second set of windings are coupled in parallel so that said first set of windings is energizable independent of said second set of windings.

6. The electrically-operated dispenser of claim 4 wherein said first set of windings and said second set of windings are coupled in series so that said first set of windings is energizable simultaneously with said second set of windings.

7. The electrically-operated dispenser of claim 4 wherein said electromagnetic coil further comprises a third set of windings wrapped about said base portion.

8. The electrically-operated dispenser of claim 7 wherein said third set of windings is coupled in parallel with at least one of said first set of windings and said second set of windings so that said third set of windings is energizable

independent of at least one of said first set of windings and said second set of windings.

9. The electrically-operated dispenser of claim 7 wherein said third set of windings is coupled in series with at least one of said first set of windings and said second set of windings so that said third set of windings is energizable simultaneously with at least one of said first set of windings and said second set of windings.

10. The electrically-operated dispenser of claim 7 wherein said armature further comprises a base section joining said first and said second arms, said third set of windings being wrapped about said base portion.

11. The electrically-operated dispenser of claim 4 wherein said first set of windings and said second set of windings have a side-by-side arrangement.

12. The electrically-operated dispenser of claim 1 wherein said first and said second arms are separated by a gap from said armature in at least said closed position.

13. The electrically-operated dispenser of claim 1 wherein said pole further comprises a base section joining said first and said second arms, and said windings of said electromagnetic coil are partially wrapped about said base portion.

14. An apparatus for an electrically-operated dispenser, comprising:

an armature; and

a generally U-shaped pole including a first arm and a second arm extending with a generally parallel and spaced-apart relationship toward said armature when positioned inside the electrically-operated dispenser, said first arm and said second arm capable of receiving windings of an electromagnetic coil.

15. The apparatus of claim 14 further comprising:

an electromagnetic coil including a plurality of windings wrapped about said first arm and said second arm.

16. The apparatus of claim 15 wherein said armature further comprises a base section joining said first and said second arms, and said windings of said electromagnetic coil are partially wrapped about said base portion.

17. The apparatus of claim 15 wherein said windings of said electromagnetic coil are divided into a first independently-energizable set of windings wrapped about said first arm and a second independently-energizable set of windings wrapped about said second arm.

18. A method of operating an electrically-operated dispenser having a pole, an armature and an electromagnetic coil with first and second sets of windings, the armature being positionable relative to the pole when current is selectively provided to the first and second sets of windings between an opened position allowing liquid flow from a liquid outlet and a closed position preventing liquid flow from the liquid outlet, the method comprising:

supplying a first current to the first set of windings and a second current to the second sets of windings effective to move the armature from the closed position to the opened position;

discontinuing the second current to the second set of windings; and

supplying a third current to the first set of windings effective to maintain the armature in the opened position.

19. The method of claim 18 further comprising:

supplying a fourth current to the first set of windings effective to allow the armature to move from the opened position to the closed position under a biasing force applied by a return spring.

20. The method of claim 18 wherein the third current flowing in the first set of windings creates an attractive force between the pole and the armature that exceeds a biasing force applied to the armature by a return spring directed for returning the armature to the closed position.